EMBL

CRG Centre for Genomic Regulation

BARCELONA COLLABORATORIUM
FOR MODELLING AND PREDICTIVE BIOLOGY

WOMEN IN SCIENCE

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A dialogue between two early-career women researchers, at the Collaboratorium

On the occasion of the International Day of Women and Girls in Science, the Barcelona Collaboratorium for Modelling & Predictive Biology highlights two journeys that remind us why representation matters: seeing women doing science makes science more accessible and more sustainable for the next generations.

Larissa Holzer works at the interface of evolutionary biology and modelling: she explains how mathematics becomes a powerful lever to ask, explore, and solve complex biological questions. She also stresses a very concrete source of motivation: the presence of other women in science, which makes it easier to envision oneself in the field and reinforces the idea that perseverance pays off.

Manuela Giraud, trained in biomedical engineering, describes how a deep curiosity to understand how the world works led her towards theoretical biology. She points to a challenge that is often invisible: self-confidence—and the belief that, with enough time and work, anything is accessible. She also highlights how motivating it is to grow alongside other women scientists, and to rely on visible role models.

Manuela supervises Larissa's work at the CRG; both are part of Nora Martin's group, Independent Fellow at the Collaboratorium.

Both EMBL and the CRG have well-developed gender equality plans and strong gender-balance figures. At the Collaboratorium, we actively strive to invite as many women as men, especially across our seminar series, event organisation, and decision-making processes.

WHAT MOTIVATED YOU TO PURSUE A CAREER IN SCIENCE?

Larissa Holzer

CRG
Master Student
Nora Martin's
Group

Larissa: Since school, I have had a strong interest in biology and mathematics. I found a degree that combined both of my interests. I was fascinated by how mathematics can serve as a powerful tool to ask, explore, and answer questions in science. Today, I work in evolutionary biology and modeling, where combining mathematical approaches with biological insight allows me to better understand complex evolutionary processes.

Manuela: It was a personal curiosity to understand how the world works. I was undecided between all the sciences, so I studied biomedical engineering since it combined a bit of everything. I was also excited at the idea of having to solve practical problems through an engineering degree, especially coming out of high school where we are only taught very theoretical subjects. At the end of my degree however I realized that it was still curiosity that motivated me more than creating practical solutions, and this led me to look for a PhD in theoretical biology.

DID ANYONE INFLUENCE YOUR DECISION?

Larissa: Teachers and professors have played a significant role in shaping my interests.

> ***"I strongly believe that educators have a major impact on how curiosity develops and which fields students feel encouraged to explore."***

Throughout my education, teachers helped spark and nurture my interest in biology and mathematics, while professors who were open, supportive, and approachable made a real difference. Having mentors who encouraged questions, fostered curiosity, and created a welcoming learning environment reinforced my motivation to pursue science and continue along this path.

Manuela Giraud

CRG
PhD Candidate
Nora Martin's
Group

Manuela: It was a mix of my friends and professors in high school who showed me how interesting science can be, and this only strengthened at university where I was in a highly scientific environment. Funnily enough, my parents who find no real interest in science were hoping that I would pursue a less 'boring' career.

WHAT KEEPS YOU MOTIVATED WHEN RESEARCH GETS FRUSTRATING?

Larissa: Research rarely comes with one single, overwhelming obstacle. More often, it is shaped by many small moments of doubt and frustration. Anyone who has spent time programming knows how challenging this can be. It requires patience, persistence, and the willingness to try again and again. At the same time, these moments are where growth happens and each challenge comes with new skills, new understanding, and new perspectives. What also motivates me is seeing other women in science. Their presence makes it easier to imagine myself in this field and reminds me that persistence pays off.

Manuela: I expect research to be a constant challenge, so when difficulties come up, I try not to get frustrated and instead see them as opportunities for learning. I appreciate that as PhD students (at least this is my experience), we have time to think and explore problems without strong time pressures. Sometimes there are stricter deadlines, but they should rarely align with periods of 'scientific frustration'.

WHAT DIFFICULTIES HAVE YOU ENCOUNTERED AS A WOMAN IN SCIENCE?

Larissa: Personally, I cannot report stereotypical or negative experiences. I have been fortunate to work in supportive, respectful, and encouraging learning and research environments. Collaboration has always felt natural, with strong mutual support, especially among women, who are still underrepresented in this field, but equally from male colleagues. Overall, I have experienced science as a space where teamwork matters more than gender, and where working together as a group creates a positive and productive atmosphere.

Manuela: I am lucky to have grown in very progressive environments at home, school or work so that I never questioned my gender as an issue. However, a big difficulty for me has been, and still is, having enough confidence in my abilities to do good science. Thinking that I am not capable to do or understand certain things has made me put a low bar on some of my goals. I am slowly realizing that

> ***"I shouldn't consider a topic to be out of my range, but that given enough time and work, anything is accessible."***

I think that confidence is a common issue among girls and women, and it is certainly something that we must work on as a society.

HAVE YOU HAD GOOD WORKING ENVIRONMENTS?

Larissa: I can only speak positively about my experience. The working environment I have encountered has been supportive, collaborative, and encouraging. Open communication, mutual respect, and a willingness to help one another have created a space where learning and growth feel natural and motivating.

Manuela: It depends, but when the experience was less good it was for causes other than gender. As you said, it is very motivating to work with other women, it makes it easier to relate to them and seeing examples of their successful careers makes me believe that it is also possible for me. I have never encountered sexist behaviors towards me or my colleagues.

WHAT CHANGES WOULD YOU LIKE TO SEE IN ACADEMIA REGARDING GENDER EQUALITY?

Larissa: I would like to see more initiatives that actively show women the wide range of opportunities available in science, for example through information days, outreach programs, and early exposure to different STEM fields. It is important that young girls do not grow up believing that certain careers, especially in mathematics, physics, or engineering, are "not for them."

> ***"Subjects that are often perceived as complex or technical are still too frequently associated with men, and these stereotypes can discourage girls from pursuing STEM paths."***

Making existing support and funding programs more visible would be a meaningful step toward breaking down these barriers and creating a more inclusive academic environment.

Manuela: I see a big disbalance within the scientific community, where there are more women doing biology or medicine, whereas men are found in what are typically considered 'harder' fields such as maths, physics or engineering. So even if many doors have opened to women in science, there are still important differences in the choices that are made. In general, it seems that academia in Europe is actively promoting gender equality, which is very nice to see and should be encouraged to be kept up with tangible actions beyond just discourse. However, it is really a wider societal issue that needs to be resolved at its root: hopefully in some years there will be no need for quotas and outreach programs anymore.

WHAT ADVICE WOULD YOU GIVE TO WOMEN CONSIDERING A CAREER IN SCIENCE?

Larissa: If you are curious and genuinely interested, go for it. Science is built on learning, asking questions, and sometimes struggling. What matters is being open to learning and not being afraid to ask for help; in science, there is almost always someone willing to support you. Keep an open mind, explore different subjects, and allow yourself to discover what truly excites you. Most importantly, don't let the idea that a field is "male-dominated" hold you back. Your interest, curiosity, and motivation matter far more than any stereotype.

Manuela: It is challenging but a great way to grow as a person. Even if in some years I were to change fields, science will have taught me to think better and to build confidence, patience, creativity and so much more.

> ***"A great advice for those looking to join a research group and that keeps being repeated to us at the CRG, is to choose a working environment that is well suited to us."***

Not every student or supervisor have the same expectations and work methods, and the experience will only be successful if there is a mutual understanding. So before joining a research group, ask as many questions as needed and trust your gut feeling!

This exchange was collected by the Project Manager of the Collaboratorium, Bastien Debiève, in February 2026.

We warmly thank both participants for taking part in this survey, and wish them the best career possible.

The Collaboratorium is committed to promoting the role and representation of women in science, and will always be!